

ORIGINAL



0000065365

BEFORE THE ARIZONA CORPORATION COMMISSION

050B

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MIKE GLEASON
KRISTIN K. MAYES
GARY PIERCE

2007 JAN 22 P 4: 52

AZ CORP COMMISSION
DOCUMENT CONTROL

IN THE MATTER OF THE
APPLICATION OF ARIZONA PUBLIC
SERVICE COMPANY FOR A HEARING
TO DETERMINE THE FAIR VALUE OF
THE UTILITY PROPERTY OF THE
COMPANY FOR RATEMAKING
PURPOSES, TO FIX A JUST AND
REASONABLE RATE OF RETURN
THEREON, TO APPROVE RATE
SCHEDULES DESIGNED TO DEVELOP
SUCH RETURN, AND TO AMEND
DECISION NO. 67744

DOCKET NO. E-01345A-05-0816

CLOSING STATEMENT

OF

SOLAR ADVOCATES

IN THE MATTER OF THE INQUIRY
INTO THE FREQUENCY OF
UNPLANNED OUTAGES DURING 2005
AT PALO VERDE NUCLEAR
GENERATING STATION, THE CAUSES
OF THE OUTAGES, THE
PROCUREMENT OF REPLACEMENT
POWER AND THE IMPACT OF THE
OUTAGES ON ARIZONA PUBLIC
SERVICE COMPANY'S CUSTOMERS

Docket No. E-01345A-05-0826

Arizona Corporation Commission

DOCKETED

JAN 22 2007

DOCKETED BY

[Signature]

IN THE MATTER OF THE AUDIT OF
THE FUEL AND PURCHASED POWER
PRACTICES AND COSTS OF THE
ARIZONA PUBLIC SERVICE COMPANY

Docket No. E-01345A-05-0827

The undersigned counsel, on behalf of the Intervener's in this docket collectively
known as the Solar Advocates, hereby offers its CLOSING STATEMENT in the above
referenced dockets pertaining to the Arizona Public Service Company ("APS".)

Table of Contents

SOLAR ADVOCATES CLOSING STATEMENT	7
I. Introductory Framework.....	7
Question 1: What does the public receive in exchange for the double digit rate increases requested by APS?	7
Answer 1: The Commission can insist that the Necessary Investment to Be Funded by the Rate Increase “Future Proofs” Arizona’s Electricity Infrastructure.....	7
..Need for Future Proofing the nearly \$1 Billion Annual Investment to Be Made by APS for “the foreseeable future”.	8
..Aggressive Use of Modern Dynamic Rate Structures to Reduce the Need for Peak Driven Infrastructure Investment.	8
Require Optimal Use of Solar Generation, Distributed Generation, and other forms of Demand Response.....	9
Question 2: Is the Potential Downgrading of a Regulated Utilities Credit Rating Sufficient Grounds for a Rate Increase?	10
Answer 2: The Commission Can Require The Company, As An Ongoing Condition Of The Rate Increase, To Address The Underlying Structural Causes Of Its Current Financial Status.	10
Question 3: How Can The Commission’s Granting of the Relief Requested By Solar Advocates Support the Resolution of this Rate Proceeding?	12
Answer 3: The Commission Can Grant Such Rate Increase As It Determines To Be In The Public Interest, While Assuring Its Constituents That Through Granting The Increase, It Has Achieved The Following:	12
1.....Required that the Company use the rate increases granted to “Future Proof” Arizona’s electricity Infrastructure,.....	12
2.Increased the use of renewable and energy efficiency,	12
3.Required that the Company develop in a collaborative, Commission monitored process, and implement the modern dynamic rate structures, Smart Grid innovation, and other Demand	

1 Response best practices that will reduce the need for future investment driven by peak
2 demands. 12

3 **II. THE NET METERING TARIFF - RATE SCHEDULE EPR-5 12**

4 **A. Summary of Solar Advocates Proposed Changes To Net Metering Tariff As Filed..... 13**

5 1..... Increase the 10kW limitation on the size of individual installations able to utilize the net
6 metering tariff to the 2 MW rapidly becoming the standard of states committed to clean
7 energy and national best practice. 13

8 2.Eliminate or increase the 15 MW aggregate limitation on the total capacity of generation
9 facilities utilizing the net metering tariff to at least a significant part of the APS distributed
10 goal under the recent REST Decision. 13

11 3.Eliminate the unnecessary “pilot” aspect of the filing..... 14

12 4.Require the Company to carry over to the next year, or pay its “avoided cost” for any
13 remaining credits at the end of the calendar year, based on an annual “true up.” 14

14 5.Require an accurate and fair cost-allocation study specifically designed to determine the
15 proper allocation of distribution costs that acknowledge the benefits of onsite generation in
16 allowing customers to choose. 14

17 6 While denying any current cost recovery in this docket based on alleged “lost revenues”,
18 provide APS the opportunity to refile, without prejudice, a tariff under the newly adopted
19 RES rules, or the principles set forth therein. 15

20 7.Finally, Solar Advocates suggests that the Commission consider the adoption of the
21 additional provisions included in the red-lined Tariff added after the label “Additional
22 Provisions from IREC Model Rule.” 15

23 **Additional Discussion of Recommendations.....12**

24 **B. Increase the 10kW limitation on the size of individual installations able to utilize the net**
25 **metering tariff to the 2 MW 16**

26 **C. Eliminate or increase the 15MW aggregate limitation on the total available for net**
27 **metering 18**

28 **D. Eliminate the unnecessary “pilot” aspect of the filing..... 19**

E.	Deny Without Prejudice APS Current Cost Recovery Request for hypothetical “lost revenues” and require that APS refile any future request under the principles of Rule R14-2-1808. Tariff	23
1.	Solar Advocates Objections to Explicit and Implicit Aspects of December 20th, 2006 filing pertaining to the “Unrecovered Fixed Distribution Costs Attributable to Net Metering”	
	<u>The Myth of "Lost Revenues" In the Second Fastest Growing Utility in America</u>	26
F.	Require the Company to carry over to the next year, or pay its “avoided cost” for any remaining credits at the end of the calendar year, based on an annual “true up.”	27
G.	Adopt Additional Provisions From IREC Model Rule.....	28
III.	SOLAR ADVOCATES RECOMMENDS DENIAL OF ANY COST RECOVERY FOR NET METERING COSTS--PENDING A PROPER APS FILING UNDER THE PRINCIPLES OF DECISION 69127	32
A.	Lost Revenues a Logical Impossibility in a General Rate Case	33
B.	No Other States Allow the Recovery of “Lost Revenues” as a result of the application of a net metering tariff	33
C.	APS Has Offered Neither Legal Authority Nor Sufficient Factual Basis for Its Request.	34
D.	General Rate Making Principals Do Not Allow the Naked Addition of Increased Costs to a Revenue Requirement—But Rather Also Require The Consideration of Offsetting Cost Decreases or Other Benefits. This is true whether or not the decreased costs or other benefits are related to the increased costs, and, a fortiori, where the benefits are created by the very circumstance alleged to increase costs.....	34
E.	The Methodology for cost Recovery Proposed by APS is Wholly Inadequate to Justify the Granting of Any Cost Recovery on the Present Record	36
F.	There are exactly the same “lost revenues” when a customer chooses to install any Demand Side Management Equipment or Operating Technique—and Staff does not support recovery of lost revenues in such circumstances.	39
G.	“What's sauce for the goose is sauce for the gander”	39

H. Finally, the RES Decision specifies clearly the methodology that is to be utilized in calculating any cost recovery to which an affected utility may be entitled, and the reasoning behind the limitations therein..... 40

1.R14-2-1808 Tariff..... 41

2...The critical issues thus controlled and determined by the newly adopted Tariff rule R14-2-1808, whether because the rule itself is in effect or because the Commission has already decided in a quasi legislative forum the principles that should apply to cost recovery of any costs of net metering incurred by a jurisdictional utility include the following: 42

3.APS proposed Tariff and Cost Recovery Mechanism Must Be Refiled under the Requirements of Rule R14-2-1808 44

IV. REMAINING ISSUES AND CONCLUSION..... 47

A. OBJECTION TO USE OF NON TIME DIFFERENTIATED MEASUREMENT OF PEAK DEMAND IN PROPOSED TARIFFS E-56 AND E-57..... 47

B. THE PROBLEM OF "NET BILLING" AS A SUBSTITUTE FOR TRUE NET METERING- The Two Fatal Flaws 47

1.*First, note that is the company claiming that net billing should be adequate—not its customers. And there is a reason for that—the treatment is not as satisfactory for customers as true net metering. 48*

2.*The other fundamental problem with "net billing" is that it depends on a "fictional sale" that has been rejected at the federal level in both the relatively small circumstances of renewable generation, and also at the much larger circumstance involving what is called "station power." 48*

3.....*Solar Advocates thus urge the Commission to discount any weight that might be given to the APS arguments based on the availability of the so-called "net billing" tariffs. 49*

C. ACKNOWLEDGEMENT OF SIGNIFICANT REDUCTION IN THE TARIFFED RATE FOR THE TOTAL SOLAR RATE TARIFF..... 50

D. OFFER TO WORK COLLABORATIVELY WITH ALL PARTIES TO DEVELOP CONSENSUS BASED RULES AND TARIFFS IN THE EVENT THE COMMISSION

1 REQUESTS THE PARTIES TO ATTEMPT A SETTLEMENT OF THE SOLAR RELATED
2 ISSUES, PRIMARILY THE NET METERING TARIFF, WITH WHATEVER GUIDANCE
3 MAY BE OFFERED 50

4 EXHIBITS 51

SOLAR ADVOCATES CLOSING STATEMENT

I. Introductory Framework

The issues that have been addressed by the Solar Advocates in this docket may appear to be the tail of the much larger dog involving the hundreds of millions of dollars in rate increases requested, and the **nearly \$1Billion per year that APS has testified they will be required to invest annually in new infrastructure to keep up with demand for the foreseeable future!**

However, as brought out during the hearing in testimony and cross-examination, the issues raised by Solar Advocates are extremely important to the essential questions facing the Commission as it fashions a decision that is in the public interest, using the tools of traditional cost of service, rate of return regulation. These essential questions include the following:

Question 1: What does the public receive in exchange for the double digit rate increases requested by APS? While a significant portion of the increases are attributed to increased fuel costs, just what is "attrition," why should the Commissioners increase consumers' rates because of it, and what do the Company's customer receive in exchange?

Answer 1: The Commission can insist that the Necessary Investment to Be Funded by the Rate Increase "Future Proofs"

1 **Arizona's Electricity Infrastructure.** By including the following
2 conditions in granting the appropriate rate increase , the Commission can
3 assure its constituents that the allowed increase is an investment in
4 Arizona's future—not a response to a hard to understand “hold-up” by
5 Wall Street credit analysts. As brought out in various cross-examinations,
6 Solar Advocates believes that the Commission should and can craft the
7 granting of the any appropriate rate increase to include the following in
8 exchange:
9

10
11 **❖ Need for Future Proofing the nearly \$1 Billion Annual**
12 **Investment to Be Made by APS for “the foreseeable future”.**

13 Solar Advocates urge the adoption of a Commission monitored
14 commitment by APS that the \$1Billion per year to be invested in
15 infrastructure will be spent on technologies that will prepare Arizona
16 for the present and future energy challenges ahead—not such
17 things as obsolete metering equipment that prevents the adoption
18 of modern dynamic rates structures, and substation equipment and
19 other often ignored aspects of utility investment that lacks the
20 automation capability that is already being installed by more
21 innovative utilities. (See Solar Exhibit 11, San Diego Smart Grid
22 Study)
23
24

25 **❖ Aggressive Use of Modern Dynamic Rate Structures to**
26 **Reduce the Need for Peak Driven Infrastructure Investment.**

27 The testimony and cross-examination of the Company's witnesses
28

1 sponsoring the rate proposals, and the proffered knowledge of the
2 senior executives of the potential for the existence and use of
3 modern dynamic tariffs, suggest either that APS knowledge and
4 practice of modern dynamic rates is woefully behind the industry
5 best practices, or that such issues exist behind the protective
6 purview of "management discretion." Whichever is the case, Solar
7 Advocates recommends that the Commission condition its granting
8 of any rate increases upon satisfactory and timely adoption of "best
9 practice" dynamic rate structures and other Demand Response¹
10 measures that will reduce the future need for a portion of the
11 expected peak driven demand growth investment.
12

13
14 **❖ Require Optimal Use of Solar Generation, Distributed**
15 **Generation, and other forms of Demand Response** As
16 summarized in the FERC STAFF REPORT, "ASSESSMENT OF
17 DEMAND RESPONSE & ADVANCED METERING," and further
18 discussed in the Commission's Decision NO. 69127 IN DOCKET
19 NO. RE-00000C-05-0030, FILED NOVEMBER 14, 2006,
20 "RENEWABLE ENERGY STANDARD AND TARIFF RULES"
21 (hereinafter REST DECISION.) sound resource planning principles
22 require the increasing use of sustainable energy technologies, in
23 conjunction with the dynamic rate regulatory and other best practice
24
25
26

27 ¹ See Federal Energy Regulatory Commission Staff Report, "Assessment of Demand
28 Response & Advanced Metering, August 2006

1 Demand Response innovations to best position Arizona's economy
2 for the 21st century. Virtually no evidence was presented in this
3 general rate case regarding APS plans, objectives, or Commission
4 requirements, even as limited to what would affect the very
5 significant growth in peak demand at the very root of the APS rate
6 request.
7

8 ***Question 2: Is the Potential Downgrading of a Regulated Utilities***

9 ***Credit Rating Sufficient Grounds for a Rate Increase?*** Solar Advocates
10 is satisfied that the record justifies a Commission conclusion that failure to grant
11 a rate increase may well result in a downgrading of APS credit rating, and that
12 such a downgrading would in turn raise the ultimate cost of the huge investment
13 that will be required to keep pace with expected growth. However, APS's
14 essentially complete lack of Demand Response or other alternatives or
15 supplements to the requested rate increase provides no assurance that the
16 fundamental problems that appear to come with an extremely rapid growth rate
17 under traditional regulation² will be addressed by the Company in utilizing the
18 funds in its investment program in the coming decade
19
20
21
22

23 ***Answer 2: The Commission Can Require The Company, As An***

24 ***Ongoing Condition Of The Rate Increase, To Address The Underlying***
25

26 ² Note that testimony suggested that while the second fastest growing utility in the country is APS, the first is
27 Nevada Power Company, (see NPC web site: "Because of the strong success of the gaming industry and Clark
28 County in general, Nevada Power faces the challenge of a phenomenal 6% growth rate, the highest of any electric
utility the country.") which has also had problems with its credit ratings. See Sierra Pacific Resources Press
Release dated May 14, 2002, "Sierra Pacific Resources Reports Quarterly Loss" available on Nevada Power
Web Site

1 ***Structural Causes Of Its Current Financial Status.*** While the Company
2 offered testimony about “attrition” and negative “regulatory environment” to
3 explain its apparently precarious credit standing, it offered no solutions to the
4 Commission other than full payment for fuel and purchased power, coupled with
5 an additional “attrition” kicker sufficient to raise its financial ratio’s to avoid a “junk
6 bond” credit rating. Solar Advocates concludes that whatever the normal
7 constraints on Commission action provided by the traditional “management
8 prerogative,” or “management discretion” doctrines, such limitations must be
9 relaxed where management has managed to get itself on credit watch lists while
10 enjoying the second fastest growing territory in the country.
11
12

13 Clearly the Company is entitled to a reasonable return on, and of, its
14 investment, and the Commission has given no indication that it will not fully
15 support such requirement. What is required is a commitment by the Company to
16 fully disclose its resource plans to the Commission and its staff, while at the
17 same time opening the process to the improvements and innovation that comes
18 with public disclosure and selected use of the market processes such as all
19 source bidding, and non-discriminatory rules and tariffs for customer owned, and
20 third-party owned alternative generation and demand side resources. This
21 specially includes the net metering related provisions under review, as in
22 essence net metering programs encourage customers to provide a portion of the
23 investment necessary to meet demand—not rate based or pass through
24 investments by the monopoly utility.
25
26
27
28

1 ***Question 3: How Can The Commission's Granting of the Relief***
2 ***Requested By Solar Advocates Support the Resolution of this Rate***
3 ***Proceeding?***

4
5 ***Answer 3: The Commission Can Grant Such Rate Increase As It***
6 ***Determines To Be In The Public Interest, While Assuring Its***
7 ***Constituents That Through Granting The Increase, It Has Achieved***
8 ***The Following:***

- 9
10 1. **Required that the Company use the rate increases granted**
11 to **"Future Proof" Arizona's electricity Infrastructure,**
12
13 2. **Increased the use of renewable and energy efficiency, and**
14
15 3. **Required that the Company develop in a collaborative,**
16 **Commission monitored process, and implement the modern**
17 **dynamic rate structures, Smart Grid innovation, and other**
18 **Demand Response best practices that will reduce the need for**
19 **future investment driven by peak demands.**

20 **II. THE NET METERING TARIFF - RATE SCHEDULE EPR-5**

21 Based on the nationwide experience of several of our members, and the current
22 experience in Arizona of the small businessmen and women who make up the
23 Arizona Solar Energy Industries Association, we are concerned that the net metering
24 tariff as proposed is inadequate to the goal of developing renewable, distributed
25 generation in our state. However, with only a very few changes, shown in red-lined
26 format and in final form at Exhibits A-1 and A-2, the revised tariff could result in the
27
28

1 satisfactory change of APS's proposed net metering tariff to one of which Arizonan's
2 could be proud, and which would be consistent with the Commission's RES
3 Decision, the stated policy of the Arizona state government³, and the net-metering
4 provisions of EPACT 2005. These changes would accomplish the following:

5
6 ***A. Summary of Solar Advocates Proposed Changes To Net***
7 ***Metering Tariff As Filed.***

8 The changes suggested by Solar Advocates would result in an APS tariff
9 consistent with the Commission's REST Decision, the stated policy of the Arizona
10 state government, the net-metering provisions of EPACT 2005 and even the recently
11 issued "Arizona Solar Electric Roadmap Study"⁴. These changes would accomplish
12 the following:

13 **1. Increase the 10kW limitation on the size of individual**
14 **installations able to utilize the net metering tariff to the 2 MW**
15 **rapidly becoming the standard of states committed to clean**
16 **energy and national best practice.**

17
18 ***2. Eliminate or increase the 15 MW aggregate limitation on***
19 ***the total capacity of generation facilities utilizing the net***
20 ***metering tariff to at least a significant part of the APS***

21
22 ³ For the most recent endorsement of the importance of the solar industry to the future of Arizona's economy see
23 ""Arizona Solar Electric Roadmap Study", Full Report, January 2007, issued by the Arizona Department of
24 Commerce—Our Job is Jobs!, and prepared by Navigant Consulting, Inc., see also "Report: Ariz. ripe for solar
25 energy" *State one of top spots in nation, study says*, Mark Shaffer, The Arizona Republic, Jan. 9, 2007 12:00 AM,
26 which also noted, "The state's solar-energy producers could generate 1,000 megawatts of power and create 3,000
27 jobs by 2020, according to the first solar-electric study prepared for the Arizona Department of Commerce." And
28 ""Arizona and California have the best sun in the country, and Arizona, especially, has the most developable land
for this endeavor."

⁴ "Arizona Solar Electric Roadmap Study", Full Report, January 2007, issued by the Arizona Department of
Commerce—Our Job is Jobs! and prepared by Navigant Consulting, Inc.

1 ***distributed goal under the recent REST Decision***⁵. The
2 proposed 15 MW capacity limitation is setting the program up for
3 failure, which should not be tolerated by the Commission. At a
4 minimum the aggregate limit should be raised to the 5% suggested in
5 the IREC Model Net Metering Rule⁶, introduced as an Exhibit to Solar
6 Advocate Witness Smeloff's direct testimony

7 **3. Eliminate the unnecessary "pilot" aspect of the filing.**

8
9 **4. Require the Company to carry over to the next year, or pay**
10 **its "avoided cost" for any remaining credits at the end of the**
11 **calendar year, based on an annual "true up."**

12 **5. Require an accurate and fair cost-allocation study**
13 **specifically designed to determine the proper allocation of**
14 **distribution costs that acknowledge the benefits of onsite**
15 **generation in allowing customers to choose—in response to cost**
16 **based price signals—when and how much to add to peak loads—**
17 **which in turn drive the much discussed "fixed costs" of the**
18 **company. Additionally, while the company acknowledges that on**
19 **site generation brings benefits to the system, they offer no value**
20 **for such benefits in their proposed methodology for calculation of**
21 **"unrecovered fixed costs" in Attachment GAD-5RB (attachment to**
22

23
24 ⁵ Note that on page 57 of Appendix B of Decision No. 69127 the Commission lists the following information
provided by APS as its distributed targets under the proposed RES:

25 2007 22 GWh
26 2008 52 GWh
2009 91 GWh
2010 157 GWh

27 The third column is simply APS distributed RES target, divided by the 1500kwh figure used by APS as an estimate
of the number of kWh produced annually by a 1kW PV system, in order to reach an estimate of the total capacity of
PV required to meet the target set by APS.

28 ⁶ The IREC Model Rule at Section 2.112 provides a limit of "five percent of the electricity provider's most recently
measured annual peak load" The IREC Model Rule is Attached hereto as Exhibit B.

1 Gregory A DeLizio's Rebuttal Testimony) See further discussion
2 of the lack of any rational basis for the proposed cost recovery
3 methodology in III below.

4
5 6. While denying any current cost recovery in this docket
6 based on alleged "lost revenues", provide APS the opportunity to
7 refile, without prejudice, a tariff under the newly adopted RES
8 rules, or the principles set forth therein, which limit the recovery
9 of costs incurred (including net metering) to amounts in excess of
10 the Market Cost of Comparable Conventional Generation.

11 7. Finally, Solar Advocates suggests that the Commission
12 consider the adoption of the additional provisions included in the
13 red-lined Tariff added after the label "Additional Provisions from
14 IREC Model Rule." These provisions have been developed based
15 on IREC's experience in almost two decades of net metering work
16 around the country. Some of these issues have been raised in this
17 docket, and those remaining will be raised in the future. Properly
18 introduced in these proceeding by Mr. Smeloff, Solar Advocates
19 urges the Commission to consider their adoption in both this APS
20 specific docket and as the RES decision and/or the principles
21 developed therein are implemented. Adoption now will save
22 considerable Commission, Commission staff, and customer time
23 and resources in comparison to case by case or other future
24 resolution proceedings.

25 Additional arguments and evidence supporting these suggestions are set
26 forth below:
27
28

1 ***B. Increase the 10kW limitation on the size of individual***
2 ***installations able to utilize the net metering tariff to the 2 MW***

3 The prefiled rebuttal testimony of Mr. DeLizio⁷ suggested in response to
4 Mr. Smeloff's suggestion to increase the maximum size limit to 2 MW that the
5 proposal to increase the limit to 2 MW would result in Arizona's net metering limit
6 being an "outlier"—somehow out of step with the development of net metering on
7 a national basis. To the contrary, as a review of Solar Exhibit 13 (an Updated
8 Table from the Dsireusa.org database dated October 2006 indicated upon cross
9 examination, states who limit net metering to 10kw are fast losing ground to
10 states with much higher limits, with the most recent actions trending significantly
11 upwards including Colorado's adoption of a 2MW limit, New Jersey's adoption of
12 a 2 MW limit, and Pennsylvania's 2MW limit depending on the nature of the use.
13 Even closer to home, we understand New Mexico has just recently (on January
14 1, 2007) adopted an 80 MW limit!

15 While Solar Advocates does not espouse simply following the crowd, it is
16 important to note that the early very low limits were not set based on any rigorous
17 engineering or even economic analysis. Rather, by setting the early limits at
18 10kw, both Commissions and state legislature could be confident that whatever
19 problems might be lurking as a result of net metering and interconnection,
20 systems of such small sizes were extremely unlikely to cause any problems
21 whatsoever.

22 It is very important the Commission note that the many fears about which
23 utilities commonly warned Commissions and other policy makers throughout the
24 country as state and federal regulatory bodies addressed net metering and
25 interconnection issues have not been borne out. Let us be very clear:

26
27
28

⁷ See DeLizio's Rebuttal Testimony at p>

There have been no safety, reliability, or economic traumas reported to date as a result of the regulatory insistence on access to interconnection and fair net metering provisions.

It should be noted as evidence of this claim that in this case, even with the vast resources of APS's litigation team—APS has brought forward no evidence supporting any limit! Rather, upon cross-examination, the justification for the low limit has been that the proposed tariff is "just a pilot⁸," or that larger customers could use the Company's net billing tariff's which have been disingenuously characterized as just as good⁹¹⁰ for larger customers¹¹. This has the additional detrimental effect that the larger PV systems, which typically involve decreasing per kWh costs as the size increase, will not be allowed to participate in one of the most important incentive program to encourage PV investment—net metering.

Thus, in the absence of any evidence that justifies any limit at all on the size of renewable energy systems qualifying for net metering, Solar Advocates suggests at the present time that Arizona adopt the provision contained in the model IREC rule of 2 MW, thereby placing Arizona on the leading edge of states who are serious about encouraging private investment in renewable energy systems.

⁸ See Testimony, DeLizio Direct and Rebuttal.

⁹ See Testimony, DeLizio Direct and Rebuttal.

¹⁰ See discussion in Part IV for an explanation of why Net Billing is assuredly not "just as good"

¹¹ It should also be noted that by limiting the use of net metering to extremely small systems, APS precludes the State's energy economy from the reduced unit costs available to solar generation owners as the total size increases. See Arizona 2006 Data showing **Solar System Cost per kWh for different sized systems prepared by the Arizona Department of Commerce, available at http://www.azcommerce.com/doclib/energy/solar_module_prices_arizona.pdf** While APS staff have argued in National forums that "utility sized" (i.e. multi megawatt installations) are to be preferred as a result of this decreased unit cost, apparently that economy of scale only applies when the utility is operating the large systems?

1 **C. Eliminate or increase the 15MW aggregate limitation on the**
2 **total available for net metering**

3 While there is at least an understandable historical reason for the
4 limitation of the maximum size of systems qualifying for net metering to 10kw—
5 as discussed above, early adopters at Commissions wanted to make certain that
6 the systems were too small to cause any of the traumatic events then being
7 touted by distributed generation opponents—no such justification exists for the
8 aggregate limitation. The aggregate limits exist solely as a kind of “safety
9 blanket” for traditional utilities worried from a strategic point of view that perhaps
10 the distributed generation phenomenon is a “disruptive technology”¹² Any
11 necessary safety and reliability limitations are addressed in the interconnection
12 rules based on the IEEE 1547 Series of Standards and Guidelines. Again, in the
13 absence of any evidence from APS¹³ justifying the proposed 15MW limit to the
14 “pilot” program, Solar Advocates suggests the use of the IREC model rule
15 provision limiting the aggregate capacity of net metered systems to 5% as
16 follows:

17 *2.112 Each electricity provider shall make net metering available to*
18 *eligible customer-generators in a timely manner and on a first-come, first-*
19

20
21 ¹² See The Innovator's Dilemma, When New Technologies Cause Great Firms to Fail, Clayton M. Christensen,
Harvard Business School Press (C) 1997

22 ¹³ The “justification” for the 15 MW Aggregate Cap is apparently contained in the following:

23 **Q: WHAT ABOUT THE OVERALL PROGRAM CAP OF 15 MW FOR THE NET**
24 **METERING PILOT PROGRAM?**

25 A: The Company believes that the proposed 15 MW cap on total aggregate participation in the
26 EPR-5 net metering pilot program is appropriate, even in light of a potential expanded renewable
27 energy program. The EPR-5 rate is proposed as a pilot program, and is therefore designed to be
28 a limited offering to provide an incentive for small customers to participate in the Company's
Solar Partners Incentive Program (credit purchase program). In addition, as summarized
above, the Company already offers other net metering/net billing type rates that do not have
any aggregate cap on participation.

--From DeLizio Direct Testimony at Page 14-15, beginning on line 22.

1 *served basis up to five percent of the electricity provider's most recently*
2 *measured annual peak load.*

3 Again, inclusion of such a more realistic limit would position Arizona to take its
4 rightful place among the top solar resource states in the country, without the
5 necessity of raising the limit based on little other than the limit is being
6 approached and no reasons not to increase it can be found. (See California's
7 recent need to raise their limit legislatively as PG&E was approaching its
8 previously set limit.)

9 ***D. Eliminate the unnecessary "pilot" aspect of the filing.***

10
11 It is hard to understand the purpose of APS's insistence upon
12 characterizing the proposed net metering tariff as a pilot, unless again there is a
13 conscious or unconscious intent to cause the net metering and renewable energy
14 standard to fail. Pilots are appropriate when there are genuine concerns about
15 reliability, safety, or the details of how best to offer a new product or service to
16 customers. That situation does not exist for APS. APS, is one of, if not the last
17 remaining technologically sophisticated and environmentally oriented utility
18 companies that do not have a clear and true net metering tariff.
19
20
21

22 This is especially ironic in this case because one of APS strength's on
23 Wall Street is the progress it has otherwise made in the area of environmental
24 stewardship—thereby reducing the risk to which other less progressive utilities
25 may find themselves should more significant environmental regulations, market
26 conditions, or policies occur in the coming years. A leading proponent of this
27 perspective in evaluating utility companies is Innovest Strategic Value Advisors,
28 advises institutional investors has ranked APS parent company Pinnacle West at
the top of US utilities for at least 7 years. In a report reported by the social

responsibility web site www.socialfunds.com "**Social and Environmental Best Practice Linked to Financial Outperformance in Electric Sector**", by William Baue, the report noted,

Once again, Innovest Strategic Value Advisors, a global socially responsible investment (SRI) research firm, has produced a report demonstrating the financial value of environmental, social, and corporate governance best practice. The most recent report, released earlier this week, assesses 26 electric power producers in the US. The electric power sector is particularly exposed to the risks of regulation and litigation, as it emits approximately one third of the air pollution in the country.

As with almost every other Innovest sector report, the half of this group of companies with better environmental, social, and governance ratings generate better financial returns on average than the remaining half of these companies that lag in these areas. Innovest applies both the EcoValue21 (EV21) rating, which examines 60 aspects of environmental risk and opportunity, and the Intangible Value Assessment (IVA), which analyzes 80 aspects of social and governance performance. Innovest's ratings mimic bond ratings, ranging from AAA (best) to CCC (worst).

Both the EV21 and the IVA ratings find proactive companies outperforming laggards by over 900 basis points (or 9 percentage points) in average total shareholder return (stock price appreciation plus dividends) over the 3-year period ending December 2003.

FPL Group (ticker: FPL) and Pinnacle West Capital (PNW) both earned AAAs in the EV21 and IVA ratings.

As suggested in the Solar Advocates' cross-examination of several of the senior executives of APS, APS, the Commission, and Commission staff have every right to be proud of the Company's environmental record, as recognized Internationally by INNOVEST, and there is little doubt that the environmental leadership it has shown as an electric utility has resulted in lower rates for APS customers as a result of the favorable influence on Wall Street Analysts. Similar benefits can presumably be expected from Wall Street when the Company more

1 fully commits to the goals of the recently adopted Renewable Energy Standard,
2 and adopts a non-pilot, non-experimental, true net metering tariff.

3
4 However, the present irony is a result of the fact that **even the INNOVEST**
5 **analysts who have recognized APS's otherwise laudatory environmental**
6 **performance have themselves chided APS/PNW for not having a net**
7 **metering tariff!**

8
9 The Innovest report introduced as **Solar Exhibit 1—The Innovest**
10 **Strategic Value Advisors Intangible Value Assessment of Pinnacle West**
11 **Corp** (dated Feb-04) provides on page 6 of the analysis, in the section entitled
12 Intellectual Capital/Product Development, the following:
13

14 PWC out performs most of its competitors in this area. The company has
15 engaged in testing renewable power applications, mainly solar power. Its
16 long-term generation strategy away from fossil fuels and mandatory
17 renewable power standards are the main drivers. In 2002, the company's
18 main subsidiary, APS, began operation the first phase of its Prescott
19 Airport Solar Power Plant with a projected 5 MW of capacity on the APS
20 grid, making it the largest solar photovoltaic power plant in the world.
21 While APS continues to increase the distributed power capacity on its
22 system (2,469 KWh of solar power in 2003) **it does not provide yet net**
23 **metering services...** (Emphasis Added)
24
25
26
27
28

1 And yet now, even in the context of a rate case where APS itself has largely
2 focused on its evaluation by Wall Street analysts and its critical importance to the
3 financial health of the Company and thus to the citizens and consumers of
4 Arizona—APS apparently believes it enough of an effort to through back in the
5 face of Wall Street that they are introducing a “pilot” program!

6
7 There is something wrong with this picture!

8
9 Even assuming that the wholly inadequate calculation of net lost revenues
10 set forth in GAD-RJ was correct, the approximately \$600,000 offered up as such
11 a serious cost to the company amounts to less than .003% of the \$1Billion that
12 APS intends to invest annually on infrastructure to keep up with demand. Surely
13 it can't really be worried about the as yet un-quantified impact of net metering on
14 its future. What is known for certain is that every system installed by its
15 customers has the potential for reducing the need for the full \$1 Billion of demand
16 driven infrastructure investment. Solar Advocates urges the Commission to allow
17 the customers of APS and the Commission's constituents to have a fair chance
18 to participate in addressing this future need.

19
20 There is one final problem that is raised by the “pilot” designation that also
21 hurts customers and increases the risk of failure of the Commissions RES
22 order—the “pilot” moniker significantly increases the financial risk to the potential
23 RES investor who intends to achieve “payback” as a result of the offset of his
24 production using the net metering tariff against the retail rates that he or she
25 would be required to pay APS. Imagine what happens to the analysis of financial
26 viability when the gist of APS testimony found at page 12 of Mr. DeLizio's direct
27 testimony becomes known:
28

1 "At the end of the three year term of this pilot project, the Company will
2 determine whether the terms of the schedule will need to be modified or
3 even withdrawn."¹⁴

4 Any investment requiring a payback period of greater than three years would
5 thus be at substantial financial jeopardy base on the company's stated plans
6 regarding the "pilot" project.

7
8 ***E. Deny Without Prejudice APS Current Cost Recovery Request for***
9 ***hypothetical "lost revenues" and require that APS refile any future***
10 ***request under the principles of Rule R14-2-1808. Tariff***

11 See the Discussion Below at III for a detailed discussion of the failure of APS to
12 provide an adequate basis for any recovery of so-called "lost revenues" on the present
13 record, and the overarching need of the Commission to conform any recovery allowed
14 with the principles and mechanisms set forth in the Tariff Rule adopted by the
15 Commission in DECISION AND ORDER NO. 69127 IN DOCKET NO. RE-00000C-
16 05-0030. However, as a result of the inability to inquire in open hearing or otherwise
17 object to the claims made by Counsel for APS in the Response to Data Requests late
18 filed on December 20th, 2006 Solar Advocates quotes the introductory language from
19 page 3 of 6 of such filing in its entirety:
20

21 **IV. UNRECOVERED FIXED DISTRIBUTION COSTS**
22 **ATTRIBUTABLE TO NET METERING**

23 Appendix C is a recalculation of APS Exhibit 73 using Staff witness Keane's
24 modified recommendation that only when a net metered customer is producing a surplus
25 of energy (i.e., more energy than the customer uses) will there be unrecovered fixed
26 distribution costs recovered through the Renewable Energy Standard ("RES"). Tr. Vol.
27 XXIII, p.4412. Please note that the aggregate level of unrecovered fixed distribution costs
28 remains unchanged from APS Exhibit 73. **These unrecovered costs are an undeniable**

¹⁴ From DIRECT TESTIMONY OF GREGORY A. DeLizio, page 12, beginning on line 7

1 aspect of net metering and if not recovered through the RES, will impact base rates
2 charged to non-participating customers.

(Emphasis added)

3 Unfortunately, as did much of the company's testimony regarding the proposed
4 net metering tariff and cost recovery there under, this summary, along with the
5 referenced Appendix C, contains more misinformation than credible information/
6 evidence upon which the Commission might base a cost recovery mechanism that
7 would withstand any serious review. While misinformation is admittedly a fairly strong
8 term, Solar Advocates offers the following list of objections to the December 20th filing in
9 response to the Commissioner's questions, as the timing of the filing, prevented any
10 review, objection, or cross examination in open hearing.

11 **1. Solar Advocates Objections to Explicit and Implicit Aspects**
12 **of December 20th, 2006 filing pertaining to the "Unrecovered**
13 **Fixed Distribution Costs Attributable to Net Metering"**

14
15
16 a) The Title Assumes or Implies that the Commission
17 asked for a calculation of "Unrecovered Fixed Distribution
18 Costs Attributable to Net Metering." That would imply that
19 the Commission had determined that such cost exist, which
20 in fact is the first failure of APS to prove.

21 b) Contrary to Mr. Mumaw's implication in his assertion
22 that "These unrecovered costs are an undeniable aspect of
23 net metering and if not recovered through the RES will
24 impact base rates charged to non-participating customers,"
25 Solar Advocates in fact DOES DENY THAT THE MERE FACT
26 THAT REVENUES THAT MIGHT OTHERWISE BE PAID TO APS
27
28

1 ARE REDUCED THEREBY ENTITLES APS TO RAISE ITS RATES BY
2 THAT AMOUNT¹⁵

3 c) Such an assertion is patently false on its face, as MANY
4 OTHER FACTS MUST ALSO BE DETERMINED BEFORE ANY
5 RECOVERY CAN BE CONSIDERED, INCLUDING:
6

7 (1) *Have other costs, whether or not related to the*
8 *cause of the alleged revenue increases, gone up, or*
9 *down, and in what magnitude.*

10 (2) *While the asserted revenue stream may have*
11 *declined in an unexpected manner, have other revenues,*
12 *perhaps equally unexpected, been realized?*
13

14 (3) *What other system benefits or costs have resulted*
15 *from the installation of the net metered facilities?*

16 (4) *Do the facilities provide energy during off peak or on*
17 *peak periods, and do they raise or lower the capacity of the*
18 *particular distribution system to serve other loads?*
19

20 *The answer to these questions is quite clear on the record*
21 *presented—APS doesn't know¹⁶.*
22
23

24 ¹⁵ Or such amount reduced by some "avoided cost"

25 ¹⁶ One aspect of the unsubstantiated claims of future problems is the mythical "net metering abuser" Solar
26 Advocates suggests that such cases are nonexistent, and the Company has no evidence that they exist. See DeLizio
27 Cross examination at page 2586 of the transcript:

28 Q. "...are you aware or do you think you could produce and show this Commission any situation anywhere in the
country where PV owners, or for that matter people trying to sell PV, although that might be easier, that there's any
credible practice of over sizing their installation and their installation and as a result taking advantage of net
metering provisions?

A. I have not attempted to find that out, so I can't answer that question."

The Myth of "Lost Revenue"

In the Second Fastest Growing Utility in America

The objections above are worth an illustrative example that likely a common occurrence in a fast growing territory such as that enjoyed by APS.

- 1) Assume that a particular substation feeder is operating at or near its capacity limit, as a result of the demand reaching the figure expected when the distribution engineers planned the facility.
- 2) Assume further that as feared by the Company, large customers, or several smaller customers; invest their own resources in solar generation qualifying for the proposed net metering tariff. We may even assume that the solar generation reduces the electricity otherwise purchased from APS by the total amount of say, 2 MWhrs per month, for an annual total of 24 MWhs.
- 3) At this point, it would appear that as Mr. Mumaw might say, it is undeniable that APS's revenues have been reduced by the amount otherwise paid for the 24 MWhs assumed not purchased.
- 4) However, without more facts, how do we know that other customers did not increase their demand to make up the amount not purchased by the net metered customers? If that occurs, even APS's witnesses did admit on cross examination that there would be no "lost revenues." How do we know this isn't the norm on the present record?
- 5) In fact, given the whole purpose of the rate case as argued by APS, is it not more likely than not that increased demand in APS territory will more than exceed any lost revenues that might occur as a result of distribution generation and demand side management? Remember APS's testimony is that they will have to spend nearly \$1 Billion annually for the foreseeable future just to keep up with demand!
- 6) But there is yet more that APS proposed recovery methodology simply ignores. What if the investment in solar DG is significant enough, and includes sufficient demand management capacity that the investment postpones or eliminates the need for an otherwise expensive upgrade to the feeder and the substation? We know that such results are possible from experience in jurisdictions such as Detroit Edison. No cost recovery is appropriate here unless the Commission can be convinced that the overall reduction in revenues AND INCREASE IN COSTS outweighs the simultaneous INCREASE IN REVENUES AND DECREASES IN COSTS. Without all such information, which is present in a rate case, no alleged "lost revenue" recovery is appropriate.

1 ***F. Require the Company to carry over to the next year, or pay its***
2 ***“avoided cost” for any remaining credits at the end of the calendar***
3 ***year, based on an annual “true up.”***

4 This issue is not so much an issue of significant economic consequence at this
5 time, because at the present time it would be economic folly to intentionally size a solar
6 generation facility utilizing net metering to produce in significant excess of the
7 customer’s total load for the annual period. Rather, the issue is more one of apparent
8 fairness of the bargain between APS and its customers, and thus Solar Advocates
9 simply argues for a good faith effort in either carrying over the credit to the next annual
10 period or paying the Company’s computed “avoided cost,” stated to be \$0.059 in the
11 Company’s late-filed Exhibit No. 86, Schedule Solar-J, APS’ revised Total Solar Rate.
12 This could be accomplished with language such as the following, adapted from the
13 IREC model rule:
14

15 ***2.103 At the end of each calendar year, the electricity provider shall either***
16 ***carry forward any excess kWh credits for use against consumption in***
17 ***future months, or shall compensate the customer-generator for any excess***
18 ***kWh credits at the electricity provider’s average hourly incremental cost of***
19 ***electricity supply over the same calendar-year period.***

20
21 The more significant issue that in this area will be to be addressed as the state moves
22 to more modern rates structures that provide more accurate, dynamic rate and cost
23 information to its consumers closer to real time data. As solar energy is always
24 produced during the day, which is the period when APS always reaches its annual
25 peak, as a result of air conditioning loads driven to a significant extent by solar heat
26 gain, the use of an avoided cost that included the non daylight hours is inherently unfair
27 and discriminatory. It is understood that when net metering prices paid are aligned
28 more accurately with costs and location, as required in the RES rules, more accurate
 and thus more efficient market signals will be provided. The suggested language is

1 thus offered at the present time more for its administrative simplicity than the technical
2 accuracy of the solution. Nevertheless, Solar Advocates asserts that the mythical solar
3 tariff abusers who somehow invests in a quantity of solar equipment that results in more
4 than nominal amounts of credits at the end of the year simply does not exist.

5 ***G. Adopt Additional Provisions From IREC Model Rule.***

6 Solar Advocates suggests that the following sections taken from the IREC
7 Model Rule, first proposed in this Docket as an Exhibit attached to Solar Witness
8 Smeloff's testimony, could be very usefully included in the proposed Net
9 Metering Tariff in order to answer the issues dealt with by such provisions before
10 they begin to take up valuable time of the Commission, the Company, and the
11 electricity customers of Arizona.

12
13 2.104 If a customer-generator terminates its service with the electricity
14 provider [[or switches electric providers]], the electricity provider shall
15 compensate the customer-generator for any excess kWh credits at the
16 electricity provider's average hourly incremental cost of electricity supply
17 over the calendar-year period immediately prior to termination of service.

18
19 2.105 A customer-generator facility used for net metering shall be
20 equipped with metering equipment that can measure the flow of electricity
21 in both directions at the same rate. For customer-generator facilities less
22 than 10 kilowatts (kW) in rated capacity, this shall be accomplished
23 through the use of a single, bi-directional electric revenue meter that has
24 only a single register for billing purposes.

25
26 2.106 A customer-generator may choose to use an existing electric
27 revenue meter if the following criteria are met:
28

1 (a) The meter is capable of measuring the flow of electricity both
2 into and out of the customer generator's facility at the same rate
3 and ratio; and

4 (b) The meter is accurate to within plus or minus five percent when
5 measuring electricity flowing from the customer-generator facility to
6 the electric distribution system.

7
8 2.107 If the customer-generator's existing electric revenue meter does not
9 meet the requirements at 2.106 above, the electricity provider shall install
10 and maintain a new revenue meter for the customer generator, at the
11 electricity provider's expense. Any subsequent revenue meter change
12 necessitated by the customer-generator, whether because of a decision to
13 stop net metering or for any other reason, shall be paid for by the
14 customer-generator.

15
16 2.108 The electricity provider shall not require more than one meter per
17 customer-generator. However, an additional meter may be installed under
18 either of the following circumstances:

19 (a) The electricity provider may install an additional meter at its own
20 expense if the customer generator consents; or

21 (b) The customer-generator may request that the electricity provider
22 install a meter, in addition to the revenue meter addressed in 2.106
23 above, at the customer-generator's expense. In such a case, the
24 electricity provider shall charge the customer-generator no more
25 than the actual cost of the meter and its installation.

26
27 2. 109 A customer-generator owns the renewable energy credits (RECs)
28 of the electricity it generates, and may apply to the state regulatory

1 commission or its authorized designee for issuance of renewable-energy
2 credits (RECs) or solar renewable-energy credits (S-RECs) as appropriate
3 and based on actual on-site electric generation, or the calculated estimate
4 for customer-generators less than 10 kW in rated capacity and as further
5 defined in Section [[reference any state renewable portfolio standard
6 (RPS) requirements here]].

7 2.110 An electricity provider shall provide to net-metered customer-
8 generators electric service at nondiscriminatory rates that are identical,
9 with respect to rate structure, retail rate components and any monthly
10 charges, to the rates that a customer-generator would be charged if not a
11 customer generator.

12
13 2.111 An electricity provider shall not charge a customer-generator any
14 fee or charge; or require additional equipment, insurance or any other
15 requirement not specifically authorized under this sub-section or the
16 interconnection rules in Section [[reference state interconnection rules
17 here]], unless the fee, charge or other requirement would apply to other
18 similarly situated customers who are not customer-generators.

19
20 2.112 Each electricity provider shall make net metering available to
21 eligible customer-generators in a timely manner and on a first-come, first-
22 served basis up to five percent of the electricity
23 provider's most recently measured annual peak load.

24
25 2.113 [[optional]] Each electricity provider shall submit an annual net-
26 metering report to the state regulatory commission. The report shall be
27 submitted by [[insert date]] of each year, and shall include the following
28 information for the previous compliance year:

- (a) The total number of customer-generator facilities;
- (b) The total estimated rated generating capacity of its net-metered customer-generators;
- (c) The total estimated net kilowatt-hours received from customer-generators; and
- (d) The total estimated amount of energy produced by customer-generators.

3.000 General Provisions

3.001 If a customer-generator has been approved under the interconnection rules in Section [[reference state interconnection rules here]], the electricity provider shall not require a customer-generator to test or perform maintenance on the customer-generator's facility except in the case of any testing or maintenance recommended by the system manufacturer.

3.002 An electricity provider shall have the right to inspect a customer-generator's facility during reasonable hours and with reasonable prior notice to the customer-generator. If the electricity provider finds that the customer-generator's facility is not in compliance with the requirements of the interconnection rules in Section [[reference state interconnection rules here]] and the requirements of IEEE Standard 1547, and non-compliance adversely affects the safety or reliability of the electricity provider's facilities or of other customers' facilities, the electricity provider may require the customer-generator to disconnect the facility until compliance is achieved.

1 **III. SOLAR ADVOCATES RECOMMENDS DENIAL OF ANY COST**
2 **RECOVERY FOR NET METERING COSTS--PENDING A PROPER APS**
3 **FILING UNDER THE PRINCIPLES OF DECISION 69127.**
4

5 Solar Advocates believe that on the present record, there is no credible evidence
6 upon which the Commission could base the granting of any cost recovery for any
7 additional costs incurred by APS as a result of the offering of "net-metering." This is the
8 necessary result under either the APS language contained in their proposed Rate
9 Schedule EPR-5, or with the revisions to Rate Schedule EPR-5, suggested by the Solar
10 Advocates. This conclusion is necessitated by the following:
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

1 **A. *Lost Revenues a Logical Impossibility in a General Rate Case***

2 ***Even under general rate-making principals, any request for***
3 ***additional costs such as those requested by APS regarding net-metering***
4 ***as a result of "lost revenues" are wholly inappropriate in the context of a***
5 ***general rate case. In setting the general rates, the basic procedure***
6 ***requires that the revenue requirement to which the Company is determined***
7 ***to be entitled by the Commission be allocated amongst the various***
8 ***customer classes and tariffs. "Lost Revenues" is simply a concept that***
9 ***makes sense, if ever, at some period after a general rate case where the***
10 ***company is not recovering the revenues expected when the Revenue***
11 ***Requirement was Allocated by the Commission amongst the customer***
12 ***classes and tariffs based on expected demand. It cannot logically exist in***
13 ***the middle of a rate case, or either the revenue requirement or the expected***
14 ***customer demand as assigned to the various customer classes and tariffs***
15 ***should be adjusted.***

16
17 **B. *No Other States Allow the Recovery of "Lost Revenues" as a***
18 ***result of the application of a net metering tariff***

19 In response to questioning from Commissioner Mayes, neither the Companies
20 tariff witness DeLizio¹⁷ and Rumolo¹⁸, nor the Staff Witness Keane¹⁹ were able to
21 identify any states who allow the recovery of "lost revenues" as a result of the
22 offering of a net metering tariff, either using the methodology proposed by the
23 Company, or that proposed by staff.
24

25
26

¹⁷ See DeLizio's testimony at page

27 ¹⁸ See Rumolo's testimony at page

28 ¹⁹ See Keane testimony at page

1 ***C. APS Has Offered Neither Legal Authority Nor Sufficient Factual***
2 ***Basis for Its Request.***

3 APS has offered no credible legal authority for its proposed cost recovery of "lost
4 revenues." This is not surprising because of the extremely stretched nature of the very
5 raising of "lost revenues" in the context of a general rate case.

6 Further, while requesting reimbursement for the full retail price for any production
7 by an onsite solar generator, APS offers no offset for benefits reducing its generation,
8 transmission or distribution costs beyond the simple "avoided cost" first and presumably
9 still determined in reference to the PURPA requirements enacted in 1978. The citizens
10 of Arizona deserve the far more accurate information and rate costing that has been
11 enabled in the last nearly three decades, in order to provide the best possible price
12 signals to the state's energy markets.

13 ***D. General Rate Making Principals Do Not Allow the Naked***
14 ***Addition of Increased Costs to a Revenue Requirement—But Rather***
15 ***Also Require The Consideration of Offsetting Cost Decreases or Other***
16 ***Benefits²⁰. This is true whether or not the decreased costs or other***
17 ***benefits are related to the increased costs, and, a fortiori, where the***
18 ***benefits are created by the very circumstance alleged to increase***
19 ***costs.***

20 Perhaps the reason APS would like to travel the path of
21 "lost revenues" is that as noted above, such a concept makes
22 sense-if at all-in a period after a rate case, where expected
23

24 ²⁰ Note that newly adopted Rule R14-2-1808 also requires a similar
25 consideration, requiring from an Affected Utility seeking cost recovery "Data
26 to demonstrate that the Affected Utility's proposed Tariff is designed to
27 recover only the costs in excess of the Market Cost of Comparable
28 Conventional Generation"

1 revenues are not being realized and thus in appropriate
2 circumstance, Commissions sometime offer relief. However, such
3 "single issue rate making" is looked upon with disfavor
4 everywhere, unless incorporated into the overall scheme adopted
5 in a general rate case²¹. One of the reasons such an approach is
6 disfavored is the problem of knowing with any certainty whether
7 or not while a particular cost has increase, perhaps other costs
8 have decreased²²—thus eliminating the size or even the need for
9 any rate increase whatsoever. And note the clarity with which
10 it is recognized that even costs and benefits unrelated to the
11 facts and circumstances of the requested rate increase must be
12 taken into account.
13
14

15 In the present case, while APS clearly recognizes that
16 there are system benefits provided by many instances of onsite
17 generation which will be utilizing the net metering tariff, and
18 staff and the Commission also clearly so concludes²³, the
19 methodology offered by APS utilizes only the offsetting cost of
20 power not required to be purchased as a benefit—ignoring the
21 reliability, diversity, and other benefits found in the
22 Commission's Decision in the REST Decision and elsewhere in the
23 testimony in this case.
24
25
26
27

28 ²¹ See Florida Supreme Court in _____

²² See the Supreme Court of the United States recent discussion of this issue in

²³ See discussion of benefits in Exhibit B, RES Opinion at page 45

1 ***E. The Methodology for cost Recovery Proposed by APS is Wholly***
2 ***Inadequate to Justify the Granting of Any Cost Recovery on the***
3 ***Present Record***

4
5 While on the present record it is not at all clear just
6 what methodology APS is proposing to utilize to determine what
7 amount should be utilized in recovering the "lost revenues" it
8 requests as a result of offering its proposed net metering
9 tariff, at least Mr. DeLizio stated clearly that the chart
10 presented as Attachment GAD-5RB of his Rebuttal Testimony was
11 the proposed methodology for the calculation of net metering
12 cost recovery²⁴."

14 Examination of the methodology proposed on Attachment GAD-
15 5RB reveals the following:

17 1. In general, the chart as presented appears to be more
18 than it is. Note that in the shaded boxes there are
19 seemingly relevant figures listed such as:

20 a. 5% Excess kWh sold back to APS per year (%)

21 b. 22% Excess kWh sold back to APS per year (%)

24 ²⁴ See Cross Examination of DeLizio, Transcript Volume XII 10/30/2006 at page 2580 begin at line 6
25 Q. You have testified several times that this exhibit was offered to the Commission and to the parties in
26 the case as your proposed methodology to recover lost revenues.

27 Is this your proposed methodology or is there something else you intend to do?

28 A. This is the proposed methodology for collecting uncollected fixed costs. The numbers here are based
 on the assumptions in the gray box. It's an assumption to provide for and to illustrate a method that the
 company is proposing to collect the uncollected fixed costs.

 It is what it is.

1 However, these figures regarding "Excess kWh sold
2 back" are used nowhere in the remainder of the chart
3 which computes the proposed lost revenue adjustment.
4 While perhaps innocent, we note that the "excess sold
5 back" to the company appears to be a figure of merit
6 in the Staff's proposal for cost recovery. According
7 to staff Witness Keane in response to questioning from
8 Judge Farmer, her prefiled testimony indicating that
9 she supported the Company's cost recovery proposal was
10 based on other charts discussed with the Company
11 involving costs for "excess" paid for by the Company,
12 but apparently not in evidence. Perhaps the presence
13 of the assumed excess production figures not otherwise
14 utilized in the chart was an attempt to comfort the
15 unwary that somewhere in the calculations presented in
16 GAD-5RB the excess production sold to the company was
17 a relevant parameter. They are not!

21 In any case, the present record justifies neither
22 the Company's nor the staff's approach to cost
23 recovery.

- 24
25 2. The proposed methodology, upon analysis, is simply the
26 total assumed production by systems utilized net
27 metering, multiplied by a calculated class average
28 rate paid, and reduced by the assumed "avoided cost"

multiplied by the same total production figure, as shown in illustrative form below:

Total Production in kWh x Calculated Average Rate Paid
By Customers Utilizing the
Specific Tariff

Reduced By

Total Production in kWh x Calculated Avoided Cost

For illustration Using the provided by APS for E12

13,500,000 kWh x Calculated Average Rate Paid (\$0.10895) By \$588,352
Customers Utilizing E12

Reduced By

13,500,000 kWh x Calculated Avoided Cost (\$0.05765) = (\$311,303)

\$277,049

Note that this methodology assumes that customers who utilize the net metering tariff will come from four customer tariffs: E12, E11, EC11R, and E32 (0-20 kW.) It then assumes that each solar system will be of 3kW size, and that each kW of installed solar systems will generate 1500 kWh annually. During cross examination, APS witness DeLizio stated that the actual calculation for purposes of net cost recovery would not be done until the actual facts regarding what customers using what rates, and the actual

1 production, were known²⁵. While that would definitely be an improvement, the proposed
2 "methodology" still ignores the need to quantify other offsetting benefits, and, the
3 theoretically and pragmatic objections to the claiming of "lost revenues" in the middle of
4 a rate case.

5
6
7 ***F. There are exactly the same "lost revenues" when a customer***
8 ***chooses to install any Demand Side Management Equipment or***
9 ***Operating Technique—and Staff does not support recovery of lost***
10 ***revenues in such circumstances.***

11 ***G. "What's sauce for the goose is sauce for the gander"***

12
13 While the folk wisdom "*What's sauce for the goose is sauce for the gander*" is
14 *perhaps not literally one of Bonbright's Principles of Regulation*, surely the principle
15 that customers of similar circumstances should receive similar treatment is on
16 everyone's list. And yet, while APS make much of the potential, and unproven,
17 alleged subsidy resulting from the availability of net metering—they casually dismiss
18 the existence of a precisely calculated subsidy of other ratepayers in the amount of
19
20

21 ²⁵ Note that this statement is entirely consistent with Solar Advocates
22 recommendation that no cost recovery decision be made in this case,
23 postponing such issue until APS has determined such facts, and can make a
24 proper filing under Rule R14-2-1808, or the principles thereof, which will be
25 utilized by all other Affected Utilities in the State. This suggests yet
26 another basis for denial of net metering cost recovery in this docket—the
27 need for uniformity of regulatory principles through-out the Commission's
28 jurisdiction.

1 \$839,000²⁶ annually as not worth the cost of paying them back²⁷. While Solar
2 Advocates does not argue the conclusion of the Company is wrong, as there are
3 many such small inequities in rate making, we do note that APS appears to take
4 some alleged subsidies far more seriously than clearly know and identified
5 subsidies. That would appear to violate the non-discrimination principle in applying
6 the strict construction approach to the alleged net metering subsidy.
7

8
9 ***H. Finally, the RES Decision specifies clearly the methodology that***
10 ***is to be utilized in calculating any cost recovery to which an affected***
11 ***utility may be entitled, and the reasoning behind the limitations***
12 ***therein.***

13
14 The COMMISISON'S FINAL DECISION AND ORDER NO. 69127 IN DOCKET
15 NO. RE-OOOOOC-05-0030 clearly sets forth the manner in which APS should recover
16 its costs for all aspects of meeting the Renewable Energy Standard, including Net
17 Metering. The Rule R14-2-1808 Tariff provides, in part,
18
19
20

21 ²⁶ SurePay and AutoPay are APS' least expensive payment processing options. APS currently
22 experiences operating and cost of money savings of \$.48 per month, or \$5.76 annually
23 from each SurePay or AutoPay customer as shown in Attachment 1. **The annual savings**
associated with these programs is approximately \$820,000 per year. (emphasis added) From "An

24 Analysis of SurePay Program, and Attachment to Rumolo Direct Testimony, DRJ 10, 9 of 12. "

25 ²⁷ See Rumolo, Direct Testimony on page 20,"Our review of the SurePay program leads us to the conclusion that offering
26 discounts to encourage participation is not warranted. We currently offer two automatic payment options to customers. SurePay
27 authorizes a customer's bank to transfer funds to APS. AutoPay is an on-line version of SurePay in which the customer will get
28 an e-mail notification when the fund transfers occur. AutoPay customers can print a paper copy of their bill from APS.COM if
the customer so desires. We do not believe that a discount is required to encourage participation since we have a high level of
participation in the automatic payment programs even when compared to companies that offer financial inducements. Also, our
analysis indicates that many of the inducements offered by other companies are not cost effective and result in cost shifting from
customers who participate to

Customers who do not elect to participate."

1 **1. R14-2-1808 Tariff**

2

3 **A. Within 60 days of the effective date of these rules, each Affected**

4 **Utility shall file with the Commission a Tariff in substantially the**

5 **same form as the Sample Tariff set forth in these rules that proposes**

6 **methods for recovering the reasonable and prudent costs of**

7 **complying with these rules.** The specific amounts in the Sample Tariff

8 are for illustrative purposes only and Affected Utilities may submit, with

9 proper support, Tariff filings with alternative surcharge amounts.

10

11 **B. The Affected Utility's Tariff filing shall provide the following information:**

12

- 13 1. Financial information and supporting data sufficient to allow the
- 14 Commission to determine the Affected Utility's fair value for
- 15 purposes of evaluating the Affected---Utility's proposed Tariff.
- 16 Information submitted in the format of the Annual Report required
- 17 under R14-2-212(G)(4) will be the minimum information necessary
- 18 for filing a Tariff application but Commission Staff may request
- 19 additional information depending upon the type of Tariff filing that is
- 20 submitted.
- 21
- 22 2. A discussion of the suitability of the Sample Tariff set forth in
- 23 Appendix A for recovering the Affected Utility's reasonable and
- 24 prudent costs of complying with these rules,
- 25
- 26 3. Data to support the level of costs that the Affected Utility contends
- 27 will be incurred in order to comply with these rules,
- 28

1 the Market Cost of Comparable Conventional Generation,"
2 APS will be required to determine its "Market Cost of
3 Comparable Conventional Generation." Market Cost of
4 Conventional Generation is defined in the rules as:

5 d) "Market Cost of Comparable Conventional Generation"
6 means the Affected Utility's energy and capacity cost of
7 producing or procuring the incremental electricity that would
8 be avoided by the resources used to meet the Annual
9 Renewable Energy Requirement, taking into account hourly,
10 seasonal and long-term supply and demand circumstances.
11 Avoided costs include any avoided transmission and
12 distribution costs and any avoided environmental compliance
13 costs.

14 **R14-2-1801(K) Definitions.**

15 The only proposed offset to its erroneous request for the full amount of "lost
16 revenues" currently proposed by APS is simply the single, company-wide,
17 territory-wide, annual average²⁸ avoided cost computed, apparently, for PURPA
18 purposes.

19 This "avoided cost" figure, shown for illustrative purposes in APS Exhibit
20 filed with Mr. DeLizio's Rebuttal Testimony Attachment GAD-5RB as \$0.05765,
21 **clearly does not and could not comply with the approach mandated in Rule**
22 **R14-2-1808.** As argued during the hearing, and recognized in Rule R14-2-1808,
23

24
25
26
27 ²⁸ (Rather than the far more accurate data available by the hour and including actual local distribution marginal costs
28 available today and required by the definition of "Market Cost of Comparable Conventional Generation" provided in
the new rule.)

1 PV generation producing during the afternoon of the summer peak, where the
2 listed price at Palo Verde for the 2006 summer peak hour was \$399.00²⁹ per MW
3 hour, should be entitled to an offset greater than \$0.05765! As required by the
4 rule and simple fairness, APS must take into account "hourly, seasonal and long-
5 term supply and demand circumstances."

6
7 This has not been done, and is itself good and sufficient reason for the
8 Commission to deny cost recovery of any potential net metering costs at this
9 time, but ordering APS to file a new request if and when it can comply with the
10 requirements of R14-2-1808.
11

12 **3. APS proposed Tariff and Cost Recovery Mechanism Must Be**
13 **Refiled under the Requirements of Rule R14-2-1808**

14 On the present state of the record, no prejudice will result in the
15 Commission's denial of any cost recovery to the Company with respect to the
16 implementation of a full and true net metering program as proposed by Solar
17 Advocates. Pursuant to APS's own admission during the hearing, APS intends
18 to gather specific and accurate information regarding the net costs (including
19 benefits) as part of its roll out of the net metering tariff and other programs under
20 the RES. The delay incurred in recovering such net costs, if any, would have
21 been incurred in any case given the lack of evidentiary basis offered to the
22 Commission in this Docket.
23
24
25
26
27
28

²⁹ From ICE data available for Palo Verde Hub, July 24-25, 2006 at <https://www.theice.com/marketdata/indices>

1 Lest there be any misunderstanding regarding the omission of any
2 mention of recovery of "lost revenues" see also the following discussion of
3 benefits and fairness from the RES decision:

4 Analysis: We agree with Staff that customers who pay capital costs to
5 install distributed generation, benefit not only themselves, but the
6 system by not contributing to overloading of transmission lines,
7 overheating of distribution lines, wear and stress on substations and
8 transformers, and the need

9 for utilities to procure or
10 generate the most
11 expensive peaking power
12 during peak load times,
13 and utility customers who
14 do not install distributed

We agree with the VSI statement that
Net Metering is an important piece of
the regulatory infrastructure for
distributed generation, and disagree
with APS' assertion the terms of the
definition go beyond what is
necessary to define the term

15 generation will therefore receive a benefit from distributed
16 generation.

17 We agree with the VSI statement that Net Metering is an
18 important piece of the regulatory infrastructure for distributed generation,
19 and disagree³⁰ with APS' assertion the terms of the definition go beyond
20 what is necessary to define the term. We see no reason to delete
21 language requiring Affected Utilities to pay for power it receives from
22 customer-generators, and find hat it is preferable to have the definition of
23 Net Metering set forth at this time in order to provide: certainty for the
24
25
26
27
28

³⁰ Final Decision in DOCKET NO. RE-00000C-05-0030 at page 6, Exhibit B

1 Distributed Generation Working Group, which can then move forward with
2 other important interconnection issues. We note that the definition of Net
3 Metering adopted herein does not allow for the "zeroing out" of credits at
4 the end of the year, as the SunShare customer stated: currently occurs in
5 her comments, but requires that the customer-generator receive
6 compensation for credits at the end of the annualized period.
7

8 **Resolution: No change required.**

9 Thus for the following two wholly adequate reasons (in addition to the
10 others set forth above, not restated here):

- 11 • Failure to demonstrate any credible grounds for recovery of so-called lost
12 revenues, and
13
- 14 • The present or very shortly required need to comply with the requirements
15 of Rule R14-2-1808
16

17 Solar Advocates urges the Commission to deny any cost recovery relating to
18 "Lost Revenues" in the present general rate case docket, with the right of APS to
19 refile an amended or more likely, wholly new request at any time under the
20 requirements of Rule R14-2-1808.
21
22
23
24
25
26
27
28

IV. REMAINING ISSUES AND CONCLUSION

A. OBJECTION TO USE OF NON TIME DIFFERENTIATED MEASUREMENT OF PEAK DEMAND IN PROPOSED TARIFFS E-56 AND E-57.

In both of the above reference tariffs, the Company has proposed the use of the peak demand recorded at any time during the month. This could result in a customer with solar generation whose use peaks at midnight paying the same demand based charge as a customer that peaks sometime in the afternoon. In 2007, there is no longer any reason to create such misleading and discriminatory rate structures, which send the wrong price signals to the market (even demand charges incurred in off peak times of use should reflect actual underlying prices.)

As adopted in the RES decision the concept of "Market Cost of Comparable Conventional Generation" which incorporates the consideration of the Affected Utility's energy and capacity cost of producing or procuring the incremental electricity ... taking into account hourly, seasonal and long-term supply and demand circumstances has taken the right path toward more accurate pricing signals. APS should not be allowed to utilize the same metering excuses that have been present for decades in setting these tariffs. Solar Advocates urges the Commission to order the Company to revise the E-56 and E-57 tariffs to better match the actual costs incurred as a result of serving the customers involved, through more precise metering and costing information.

B. THE PROBLEM OF "NET BILLING" AS A SUBSTITUTE FOR TRUE NET METERING

Careful reading of the prefiled testimony and the transcript of the witnesses presenting the net metering tariff will reveal that whenever pressed on the fact that the proposed net metering "pilot" applies only to very small systems—(10kw or under—the least efficient sized installation possible) the witness would fall back on the availability of

1 APS's "net billing" tariffs³¹. See for example the following from witness DeLizio's
2 rebuttal testimony, page 13, line

3 "APS believes that the proposed 10 kW cap on the individual generator size is
4 appropriate for net metering, even in light of an expanded RES program because
5 the Company already offers net billing rate options for distributed generation
6 systems up to 100 kW, which do not have any cap on aggregate participation"

7 There are two fundamental problems with this position as espoused by APS:

8 **1. First, note that is the company claiming that net billing**
9 **should be adequate—not its customers.** And there is a reason for
10 that—the treatment is not as satisfactory for customers as true net
11 metering. If this were not true, the Company would presumably not
12 resisting a more significant net metering program, applicable to a broader
13 range of customers and installation sizes. Customer's like choices—APS
14 doesn't want to provide this choice.

15
16 **2. The other fundamental problem with "net billing" is that**
17 **it depends on a "fictional sale" that has been rejected at the**
18 **federal level in both the relatively small circumstances of**
19 **renewable generation, and also at the much larger**
20 **circumstance involving what is called "station power."** Just as
21 utilities commonly resist distributed generation on various grounds
22 using whatever means available, utilities also resisted the idea of
23 independent generators first allowed under PURPA. After being
24 forces to interconnect to the grid by PURPA, FERC, and many state
25 commissions, utilities often still resented that generators not a
26 member of the club were on "their" grid selling energy at wholesale.

27
28 ³¹ See DeLizio Rebuttal at page 13 beginning at line 12: "APS currently utilizes the net billing methodology for customers taking service under rate schedules EPR-2 and EPR-4.

1 Once last ditch solution widely tried involved charging an independent
2 operator for all electricity consumed onsite even if generated at the plant,
3 on the theory that the local utility had the monopoly right to sell all
4 electricity consumed by the purchaser for local use. Thus, the local
5 distribution or integrated utilities attempted to bill the independent power
6 stations at their retail commercial rates.

7 FERC has consistently condemned such practices, under what
8 Solar Advocates would call the "station Power Doctrine. As noted earlier,
9 FERC applied similar reasoning in deciding the MidAmerican series of
10 cases brought to prevent net metering in the State of Iowa, holding that
11 the whole idea of the fictional, or "imputed" sale was inappropriate in both
12 the independent power and net metering circumstances, with the better
13 analysis treating the production of excess power for what it is—an
14 instantaneous rate of flow that must be integrated over some period of
15 time, better treated as an exchange (or, in the language of EPACT – an
16 "offset." Again, much to the surprise of Solar Advocates, the otherwise
17 environmentally sensitive APS places itself in the company of such well
18 known anti solar zealots as Colorado's Intermountain Energy. IREA led
19 the effort to pass legislation in Colorado that only applies to Rural
20 Cooperatives—for some reason ensuring that the rural electric
21 associations can charge retail while buying all renewable production at
22 wholesale. This, in spite of the well advertized fact that the only potential
23 customers who wanted net metering were the "owner members who are
24 often said to control such associations!

25 **3. *Solar Advocates thus urge the Commission to discount***
26 ***any weight that might be given to the APS arguments based on***
27 ***the availability of the so-called "net billing" tariffs. Solar***
28

1 Advocates is confident that in any state with a long standing
2 tradition and experience with true net metering, the utility would not
3 have the audacity to even attempt to utilize net billing as a substitute.

4 **C. ACKNOWLEDGEMENT OF SIGNFICANT REDUCTION IN THE**
5 **TARIFFED RATE FOR THE TOTAL SOLAR RATE TARIFF**

6 That the Company was able to reduce the cost of the Total Solar Tariff from the
7 37.5 cents as initially filed to the 16.6 cents per kWh as later filed upon challenge
8 speaks volumes about the potential of solar in Arizona—including the ability and
9 willingness of APS to listen and respond to customer feedback—and perhaps also the
10 continuing need for such review as this industry continues to develop.

11 **D. OFFER TO WORK COLLABORATIVELY WITH ALL PARTIES TO**
12 **DEVELOP CONSENSUS BASED RULES AND TARIFFS IN THE EVENT THE**
13 **COMMISSION REQUESTS THE PARTIES TO ATTEMPT A SETTLEMENT**
14 **OF THE SOLAR RELATED ISSUES, PRIMARILY THE NET METERING**
15 **TARIFF, WITH WHATEVER GUIDANCE MAY BE OFFERED**

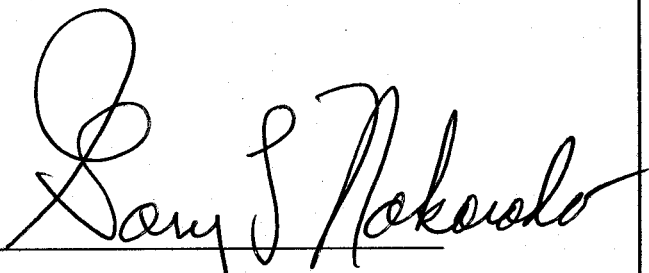
16 Solar Advocates recognizes that the hearing room is not the best environment to
17 enter into discussions of areas of agreement, and regrets that there has not been an
18 opportunity to work informally with the Company's solar staff, the Commission staff, and
19 the other parties in order to seek to simplify or even eliminate the issues now facing the
20 Commission. Solar Advocates has indeed been impressed by the environmental
21 reputation enjoyed by APS, and even the response to the initial complaint regarding the
22 Total Solar tariff. Thus, Solar Advocates has been somewhat confused by some of the
23 positions taken in the context of this litigation, and continues to hope that such
24 seemingly anti customer choice, anti customer owned generation are a result of the
25 complex nature of this case, and the ease with which old beliefs and arguments rise to
26 the top when time is short.

EXHIBITS

EXHIBIT A - APS Net Metering Tariff --RATE SCHEDULE EPR-5 -- with redlined
changes suggested by Solar Advocates

EXHIBIT B -- IREC Model Net-Metering Rules

1
2 RESPECTFULLY SUBMITTED THIS 22nd DAY OF JANUARY, 2007.
3
4

5
6
7 
8 Gary L. Nakarado

9 Counsel for the Solar Advocates
10 24657 Foothills Drive North
11 Golden, CO, 80401
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28



RATE SCHEDULE EPR-5
CLASSIFIED SERVICE
RATES FOR RENEWABLE RESOURCE FACILITIES
OF 10 kW OR LESS FOR PARTIAL REQUIREMENTS

AVAILABILITY

This rate schedule is available in all territory served by the Company at all points where facilities of adequate capacity and the required phase and suitable voltage are adjacent to the sites served.

APPLICATION

This rate schedule is offered as a three-year pilot program to renewable resource generation facilities with a nameplate service continuous output power rating of 10 kW or less where the customer's generator(s) and load are located at the same premise. Renewable resources eligible to participate in this pilot program include solar and other renewable resources, as defined in A.A.C. R14-2-1618, as it may be modified or updated from time to time. This pilot program is capped at 15 MW of total renewable generation nameplate capacity. Environmental Portfolio Surcharge (EPS) funding will be utilized to recover the metering costs, billing system modification cost and revenue loss associated with the pilot program. This pilot program is conditioned upon continued and sufficient EPS funding. Participation under this schedule is subject to availability of enhanced metering and billing system upgrades.

TYPE OF SERVICE

Electric sales to the Company must be single phase or three phase, 60 Hertz, at one standard voltage as may be selected by customer (subject to availability at the premises).

SALES TO THE CUSTOMER

Power sales and special services supplied by the Company to the customer in order to meet the customer's supplemental or interruptible electric requirements will be priced at the Standard Retail Rate as may be selected by the customer. Refer to the Definitions section, No. 5, of this rate schedule to identify rate schedules that qualify for this pilot program.

RATE

Energy will not be purchased from the customer under this schedule; instead, the kWh of energy provided will be credited to the customer. Through the net metering method, the customer shall receive the full retail value of the energy component (charges assessed on a kWh basis) of their bundled Standard Offer Service Rate for the power fed into the system from the customer-owned renewable resource generator(s). In cases where customer owned generation output exceeds the customer's total usage in a given month, the customer will receive a kWh credit equal to this excess generation output on the next monthly bill. Any remaining kWh credit amount will be zeroed out (no payment made to the customer) in the customer's last monthly bill rendered in the calendar year or at the time of a customer shut off. The Company shall provide one bi-directional meter under this EPR-5 pilot program.

CONTRACT PERIOD

Any applicable contract period(s) will be set forth in an Agreement between the customer and the Company.

DEFINITIONS

1. Partial Requirements Service -- Electric service provided to a customer that has an interconnected renewable resource generation system configuration whereby the output from its electric generator(s) first supplies its own electric requirements and any excess energy (over and above its own requirements at any point in time) is then provided to the Company. The Company supplies the Customer's supplemental electric requirements (those not met by their own generation facilities). This configuration may also be referred to as the "parallel mode" of operation.



RATE SCHEDULE EPR-5
CLASSIFIED SERVICE
RATES FOR RENEWABLE RESOURCE FACILITIES
OF 10 kW OR LESS FOR PARTIAL REQUIREMENTS

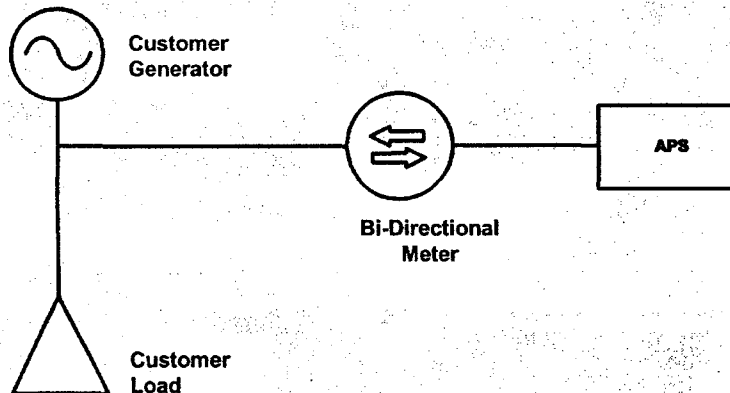
DEFINITIONS (cont)

2. Special Service(s) - The electric service(s) specified in this section that will be provided by the Company in addition to or in lieu of normal service(s).
3. Time Periods - Mountain Standard Time shall be used in the application of this rate schedule. Because of potential differences of the timing devices, there may be a variation of up to 15 minutes in timing for the pricing periods.
4. Pilot Program - The term of this pilot program is three years from the issuance of Decision No. XXXXX. If this experimental pilot rate schedule later becomes a standard Company rate schedule, the Company reserves the right to modify the rate schedule.
5. Standard Retail Rate - Qualifying standard retail rates for service under this pilot program are limited to Rate Schedules E-12, ET-1, ET-2, ECT-1R and ECT-2 for residential customers and Rate Schedules E-32 and E-32 TOU for general service customers with Monthly Maximum Demands of 20 kW or less.

TERMS AND CONDITIONS

Service under this rate schedule is subject to the Company's Schedule 1, Terms and Conditions for Standard Offer and Direct Access Services and Schedule 2, Terms and Conditions for Energy Purchases from Qualified Cogeneration or Small Power Production Facilities. This schedule has provisions that may affect the customer's bill. In addition, service may be subject to special terms and conditions as provided for in a customer interconnection or service agreement.

METERING CONFIGURATION





IREC Model Net-Metering Rules

www.irecusa.org/connect/netmeteringrules.pdf

Net Metering

1.000 Definitions

[[insert appropriate definitions here]]

2.000 Net metering general provisions

- 2.100 All electricity providers shall offer net metering to customers with solar, wind and other eligible generators defined at 2.114 that generate electricity on the customer's side of the meter and are interconnected with the electricity provider pursuant to the interconnection rules in Section *[[reference state interconnection rules here]]*, provided that the generating capacity of the customer-generator's facility meets both of the following criteria:
- (a) The rated capacity of the generator does not exceed two megawatts (MW); and
 - (b) The rated capacity of the generator does not exceed the customer's service entrance capacity.
- 2.101 The electricity provider shall develop a net-metering tariff that provides for customer-generators to be credited in kilowatt-hours (kWh) at a ratio of 1:1 for any excess production of their generating facility that exceeds the customer-generator's on-site consumption of kWh in the billing period following the billing period of excess production. However, any excess kWh credits shall not reduce any fixed monthly customer charges imposed by the electricity provider.
- 2.102 The electricity provider shall carry over any excess kWh credits earned under 2.101 and apply those credits to subsequent billing periods to offset any customer-generator consumption in those billing periods until all credits are used or until the end of the calendar year. An electricity provider that uses cycle bills may use the December billing month as the end of the calendar year.
- 2.103 At the end of each calendar year, the electricity provider shall either carry forward any excess kWh credits for use against consumption in future months, or shall compensate the customer-generator for any excess kWh credits at the electricity provider's average hourly incremental cost of electricity supply over the same calendar-year period.
- 2.104 If a customer-generator terminates its service with the electricity provider *[[or switches electric providers]]*, the electricity provider shall compensate the customer-generator for any excess kWh credits at the electricity provider's average hourly incremental cost of electricity supply over the calendar-year period immediately prior to termination of service.

- 2.105 A customer-generator facility used for net metering shall be equipped with metering equipment that can measure the flow of electricity in both directions at the same rate. For customer-generator facilities less than 10 kilowatts (kW) in rated capacity, this shall be accomplished through the use of a single, bi-directional electric revenue meter that has only a single register for billing purposes.
- 2.106 A customer-generator may choose to use an existing electric revenue meter if the following criteria are met:
- (a) The meter is capable of measuring the flow of electricity both into and out of the customer-generator's facility at the same rate and ratio; and
 - (b) The meter is accurate to within plus or minus five percent when measuring electricity flowing from the customer-generator facility to the electric distribution system.
- 2.107 If the customer-generator's existing electric revenue meter does not meet the requirements at 2.106 above, the electricity provider shall install and maintain a new revenue meter for the customer-generator, at the electricity provider's expense. Any subsequent revenue meter change necessitated by the customer-generator, whether because of a decision to stop net metering or for any other reason, shall be paid for by the customer-generator.
- 2.108 The electricity provider shall not require more than one meter per customer-generator. However, an additional meter may be installed under either of the following circumstances:
- (a) The electricity provider may install an additional meter at its own expense if the customer-generator consents; or
 - (b) The customer-generator may request that the electricity provider install a meter, in addition to the revenue meter addressed in 2.106 above, at the customer-generator's expense. In such a case, the electricity provider shall charge the customer-generator no more than the actual cost of the meter and its installation.
2. 109 A customer-generator owns the renewable energy credits (RECs) of the electricity it generates, and may apply to the state regulatory commission or its authorized designee for issuance of renewable-energy credits (RECs) or solar renewable-energy credits (S-RECs) as appropriate and based on actual on-site electric generation, or the calculated estimate for customer-generators less than 10 kW in rated capacity and as further defined in Section *[[reference any state renewable portfolio standard (RPS) requirements here]]*.
- 2.110 An electricity provider shall provide to net-metered customer-generators electric service at non-discriminatory rates that are identical, with respect to rate structure, retail rate components and any monthly charges, to the rates that a customer-generator would be charged if not a customer-generator.
- 2.111 An electricity provider shall not charge a customer-generator any fee or charge; or require additional equipment, insurance or any other requirement not specifically authorized under this sub-section or the interconnection rules in Section *[[reference state interconnection rules here]]*, unless the fee, charge or other requirement would apply to other similarly situated customers who are not customer-generators.

- 2.112 Each electricity provider shall make net metering available to eligible customer-generators in a timely manner and on a first-come, first-served basis up to five percent of the electricity provider's most recently measured annual peak load.
- 2.113 *[[optional]]* Each electricity provider shall submit an annual net-metering report to the state regulatory commission. The report shall be submitted by *[[insert date]]* of each year, and shall include the following information for the previous compliance year:
- (a) The total number of customer-generator facilities;
 - (b) The total estimated rated generating capacity of its net-metered customer-generators;
 - (c) The total estimated net kilowatt-hours received from customer-generators; and
 - (d) The total estimated amount of energy produced by customer-generators.

2.114 Eligible Generators

[[insert definitions of appropriate eligible generators here]]

3.000 General Provisions

- 3.001 If a customer-generator has been approved under the interconnection rules in Section *[[reference state interconnection rules here]]*, the electricity provider shall not require a customer-generator to test or perform maintenance on the customer-generator's facility except in the case of any testing or maintenance recommended by the system manufacturer.
- 3.002 An electricity provider shall have the right to inspect a customer-generator's facility during reasonable hours and with reasonable prior notice to the customer-generator. If the electricity provider finds that the customer-generator's facility is not in compliance with the requirements of the interconnection rules in Section *[[reference state interconnection rules here]]* and the requirements of IEEE Standard 1547, and non-compliance adversely affects the safety or reliability of the electricity provider's facilities or of other customers' facilities, the electricity provider may require the customer-generator to disconnect the facility until compliance is achieved.